

### **III. REMARKS**

#### **A. Summary of the Amendments**

The present application now contains 34 claims.

Claims 1, 2, 6, 7, 17, 23, 24 and 37 have been amended in order to better define the subject matter being claimed.

Claims 3-5, 19-22 and 38-48 remain the same.

Claims 49-56 are new. The Applicant respectfully submits that support for new claims 49-56 exists in the application as filed and that no new matter has been added to the present application. Specifically claims 49-52 are based on claims 2-5 depending from claim 6 and claims 53-56 are based on claims 2-5 depending from claim 7.

#### **B Summary of the Rejections and Reply**

##### **I) Rejection of claims 1, 6, 7 and 37 under 35 U.S.C. §102**

In the Office Action, the Examiner has rejected claims 1, 6, 7 and 37 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent no. 5,966,686 (hereafter to be referred to as Heidorn).

The Examiner also rejected claims 17 and 19-24 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent no. 5,060,155 (hereafter to be referred to as van Zijlen).

For the reasons presented below, the Applicant respectfully submits that the claims, as amended, are novel in light of the teachings of the cited documents.

Claims 1-5

The Examiner's attention is respectfully directed towards the following limitation of independent claim 1, as amended:

- 1) *A natural language information extraction system for deriving information from a textual representation of a sentence, the sentence having a plurality of words, said system comprising:*
  - a) *an input for receiving data elements indicative of the textual representation of the sentence;*
  - b) *a processing unit coupled to said input, said processing unit being operative for processing the textual representation of the sentence to derive:*
    - i. *a parse tree group including a plurality of parse trees, each parse tree in said parse tree group including a word of the sentence, at least one parse tree including at least two words of the sentence, said at least one parse tree including a dependency data element describing a syntactic relationship between the at least two words of the sentence, and;*
    - ii. *at least one noun phrase associated to a semantic type;*  
*said processing unit being operative for processing said parse tree group and said at least one noun phrase associated to a semantic type on the basis of a set of information extraction rules to derive an information record, the information record being indicative of a semantic representation of at least part of the sentence;*
  - c) *an output for releasing one or more data elements indicative of the information record.*

The Applicant respectfully submits that the references cited by the Examiner do not disclose, teach or suggest the subject matter of independent claim 1. Without limiting the generality of the foregoing, the Applicant respectfully submits that the references cited by the Examiner do not disclose, teach or suggest the above-emphasized limitations of independent claim 1.

Claim 1 has been amended to incorporate therein a portion of the features previously present in claim 2. On page 6 of the office action, the examiner indicated that claims 2 and 38 were "deemed to be a non-obvious improvement" over Heidorn by the incorporation of "a parse tree group, wherein each parse tree in said parse tree group includes a word of the sentence and having [[a]] dependency data element describing a syntactic relationship between at least two words of the sentence, into determining a semantic representation of at least part of a sentence, [...]". The Examiner further indicated that the above "has neither been anticipated nor found in obvious

combination with the other prior art of record". Language directed to the features described by the examiner appears in the above-emphasized limitations of claim 1.

In light of the foregoing, the Applicant respectfully submits that independent claim 1, as amended, distinguishes over the cited art, and as such is believed to be in condition for allowance.

Claims 2-5 depend directly or indirectly from independent claim 1, and as such incorporate by reference all the limitations contained therein. Accordingly, for the same reasons as those presented above with respect to independent claim 1, claims 2-5 also distinguish over the cited art, and as such are also believed to be in condition for allowance.

Claim 6

Independent claim 6 describes the method performed by the apparatus of independent claim 1. As such, for the same reasons as those presented above with respect to independent claim 1, the Applicant respectfully submits that the cited documents do not disclose, teach or suggest the subject matter of amended claim 6.

Accordingly, the Applicant respectfully submits that independent claim 6, as amended, is in condition for allowance.

New claims 49-52 depend directly or indirectly from independent claim 6, and as such incorporate by reference all the limitations contained therein. Accordingly, for the same reasons as those presented above with respect to independent claim 6, claims 49-52 also distinguish over the cited art, and as such are also believed to be in condition for allowance.

Claim 7

Independent claim 7 describes a computer readable medium comprising a program element suitable for execution by a computing apparatus for performing the method described in claim 6. As such, for the same reasons as those presented above with respect to independent claims 1 and 6, the Applicant respectfully submits that the cited documents do not disclose, teach or suggest the subject matter of claim 7 as amended.

Accordingly, the Applicant respectfully submits that independent claim 7, as amended, is in condition for allowance.

New claims 53-56 depend directly or indirectly from independent claim 7, and as such incorporate by reference all the limitations contained therein. Accordingly, for the same reasons as those presented above with respect to independent claim 7, claims 53-56 also distinguish over the cited art, and as such are also believed to be in condition for allowance.

Claim 17

The Examiner's attention is respectfully directed towards the following limitations of independent claim 17, as amended:

- 17) *An apparatus for parsing a textual representation of a sentence to derive a parse tree group including a plurality of parse trees, the sentence including a plurality of words, the apparatus comprising:*
- a) an input for receiving data elements indicative of the textual representation of the sentence;*
  - b) a processing unit for processing the data elements indicative of the sentence to generate a parse tree group, said processing unit being operative for:*
    - i. generating a parse tree for each word in the sentence and adding each generated parse tree to the parse tree group, wherein each parse tree in the parse tree group is formed of at least one node, and wherein at least some of the nodes that form the parse tree are associated to a word in the sentence;*
    - ii. generating a new parse tree on the basis of binary dependency rules applied to a given parse tree in the parse tree group, the new parse tree resulting from a combination of the given parse tree and another parse tree from the parse tree group;*
    - iii. adding the new parse tree to the parse tree group;*

- iv. wherein at least one parse tree in the parse tree group includes at least two nodes, each node of said at least two nodes being associated to a respective word of the sentence, said at least one parse tree including a dependency data element describing a syntactic relationship between the at least two words of the sentence;*
- c) an output for releasing a signal indicative of the parse tree group, said parse tree group being in a format suitable to be processed to derive a semantic representation of at least part of the sentence at least in part on the basis of the parse tree group.*

The Applicant respectfully submits that the references cited by the Examiner do not disclose, teach or suggest the subject matter of independent claim 17. Without limiting the generality of the foregoing, the Applicant respectfully submits that the references cited by the Examiner do not disclose, teach or suggest the above-emphasized limitations of independent claim 17.

Claim 17 has been amended to incorporate therein a portion of the features previously present in claim 2. On page 6 of the office action, the examiner indicated that claims 2 and 38 were “deemed to be a non-obvious improvement” over Heidorn by the incorporation of “a parse tree group, wherein each parse tree in said parse tree group includes a word of the sentence and having [[a]] dependency data element describing a syntactic relationship between at least two words of the sentence, into determining a semantic representation of at least part of a sentence, [...]”. The applicant submits that the above emphasized features are also neither taught nor suggested by van Zuijlen. The Examiner further indicated that the above “has neither been anticipated nor found in obvious combination with the other prior art of record”. Language directed to the above features described by the examiner appears in the above-emphasized limitations of claim 17.

In light of the foregoing, the Applicant respectfully submits that independent claim 17, as amended, distinguishes over the cited prior art, and as such is believed to be in condition for allowance.

Claims 19-22 depend from independent claim 17, and as such incorporate by

reference all the limitations contained therein. Accordingly, for the same reasons as those presented above with respect to independent claim 17, claims 19-22 also distinguish over the cited prior art, and as such are also believed to be in condition for allowance.

Claim 23

Independent claim 23 describes the method performed by the apparatus of independent claim 17. As such, for the same reasons as those presented above with respect to independent claim 17, the Applicant respectfully submits that the cited documents does not disclose, teach or suggest the subject matter of amended claim 23.

Accordingly, the Applicant respectfully submits that independent claim 23, as amended, distinguishes over the cited prior art, and as such is believed to be in condition for allowance.

Claim 24

Independent claim 24 describes a computer readable medium comprising a program element suitable for execution by a computing apparatus for performing the method described in claim 23. As such, for the same reasons as those presented above with respect to independent claims 17 and 23, the Applicant respectfully submits that the cited documents do not disclose, teach or suggest the subject matter of amended claim 24.

Accordingly, the Applicant respectfully submits that independent claim 24, as amended, distinguishes over the cited prior art, and as such is believed to be in condition for allowance.

Claim 37

Independent claim 37 describes the apparatus of independent claim 1 in means plus function language. As such, for the same reasons as those presented above with respect to independent claim 1, the Applicant respectfully submits that the cited documents do not disclose, teach or suggest the subject matter of amended claim 37.

Accordingly, the Applicant respectfully submits that independent claim 37, as amended, is believed to be in condition for allowance.

Claims 38-48

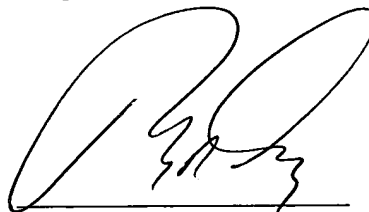
In the Office Action, the Examiner indicated that claims 38-48 were in allowable form. The applicant gratefully acknowledges allowance of claims 38-48.

### III. CONCLUSION

In view of the above, it is respectfully submitted that claims 1-7, 17, 19-24 and 37-48, 49-56 are in condition for allowance. Claims 38-48 have already been allowed by the Examiner. Reconsideration of the rejections and objections with regards to claims 1-7, 17, 19-24, 37 and 49-56 is requested. Allowance of claims 1-7, 17, 19-24, 37 and 49-56 at an early date is solicited.

If the claims of the application are not considered to be in full condition for allowance, for any reason, the Applicant respectfully requests the constructive assistance and suggestions of the Examiner in drafting one or more acceptable claims or in making constructive suggestions so that the application can be placed in allowable condition as soon as possible and without the need for further proceedings.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. Dowell', written over a horizontal line.

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